Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_\_\_

CW 19: Graphs of Linear Functions

**Honors Geometry**

**Bridge Situation**

A group of workers are painting a bridge.

1. Look at this situation. Sketch a graph to show how f(x) will depend on x.
2. What happens as the number of workers increases?
3. **Plumber Situation**

A plumber charges a fixed fee for coming to your house, then charges a fixed amount per hour on top of this.

1. Sketch a graph to show how c(t) will depend on t.
2. Create a potential equation to model c(t).
3. Annotate your equation to explain the key features and what they mean.
4. **Cyclist situation**

A cyclist travels along a direct route from Chicago, IL to Gary IN.

1. Sketch a graph to show how c(g) will depend on t.
2. Create a potential equation to model c(g).
3. Annotate your equation to explain the key features and what they mean.
4. Compare your equation in problem 2, to the equation for problem 3. What are the major differences?
5. **Movie Subscription Situation**

You get two movies free, but then you get charged at a fixed rate per movie.

1. Sketch a graph to show how d(v) will depend on t.
2. Create a potential equation to model d(v).
3. Annotate your equation to explain the key features and what they mean.
4. **Internet Café Situation**

An Internet café charges a fixed amount per minute to use the Internet.

1. Sketch a graph to show how c(m) will depend on t.
2. Create a potential equation to model c(m).
3. Annotate your equation to explain the key features and what they mean.
4. Based off your equation, how many minutes will $8 buy? Does the cost make sense? Why?
5. Kymani has 40 dollars and earns 10 dollars per day. Ahmad has 20 dollars and earns 10 dollars per day.
6. Graphically, show how much more money Kymani will have after 7 days.
7. Create two equations to model the amount of money Kymani and Ahmad have. Be sure to define your variables.
8. Based on your graph will Amhad ever have more money than Kymani? Explain why.